an emitter having a selective energy emission band, said emitter [emitting] converting thermal energy to energy within said emission band in response to a temperature of said emitter;

a light pipe having a first end and a second end, said first end communicating with said emitter;

an optical bandpass filter communicating with said second end, said filter having a pass band corresponding to said emission band; and

a detector communicating with said filter, said detector detecting said emitted energy as a measure of said temperature.

REMARKS

The Examiner has rejected claims 1-2, 5, 12-13, and 17 under 35 U.S.C. § 102(b) as being anticipated by Wickershiem et al.

Wickershiem et al. uses a light source (e.g., 60, 62, 63, 66) to excite the emission of the phosphor 40. The emission is at two or more wavelengths and the relative intensities (i.e., ratio) is a measure of the temperature of the phosphor (col. 5, line 40 to col. 6, line 19). The phosphor emits because it is illuminated by the light source. The relative intensities of these emissions is a measure of the temperature. The phosphor does not convert its own thermal energy into an emission in a selective energy band. It merely modulates a light source induced fluorescence according to the phosphor temperature.

The sensor of the present invention actually converts its own thermal energy to energy within the emission band, no light source is required for operation.

Wickershiem et al. does not teach the use of a selective emitter as disclosed in the present application. It is respectfully submitted that claims 1-2, 5, 12-13, and 17 are not anticipated by Wickershiem et al.

The Examiner has rejected claims 10-11 and 14-15 as being unpatentable under 35 U.S.C. § 103(a) over Wickershiem et al.

As set forth above, Wickershiem et al. does not teach the use of a selective emitter as disclosed and claimed in the present application. There is nothing in Wickershiem et al. to suggest such an emitter or to motivate the use of such an emitter.

With respect to claims 14 and 15, it should be noted that the materials claimed are selective emitters as disclosed and claimed in the present invention. Different criteria are set forth in Wickershiem et al. for the selection of suitable materials.

It is respectfully submitted that claims 10-11 and 14-15 are patentable over Wickershiem et al.

The Examiner has rejected claims 3-4, 6-9, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Wickershiem et al. in view of Nelson.

Nelson primarily teaches the use of selective emitters in the conversion of heat to electricity. In particular, it teaches a mantle that converts thermal energy from a combustion process into a band of energy that is matched to a photovoltaic device for conversion to electrical energy. There is no teaching or suggestion that a selective emitter can be used in temperature measurement.

Wickershiem et al. teaches the use of a ratio of different wavelength intensities from an illuminated phosphor to measure temperature. There is no teaching or suggestion that the conversion of thermal energy to a selective emission band can be used in temperature measurement.

There is no teaching, suggestion or motivation that the conversion of thermal energy to a selective emission band as found in Nelson can be substituted for the illuminated phosphor in Wickershiem et al.

It is respectfully submitted that claims 3-4, 6-9, and 16 are patentable over Wickershiem et al. in view of Nelson.

In view of the foregoing amendment and remarks, it is respectfully submitted that the application is now in condition for allowance and notification of same is requested.

Please charge any fees which are required by this communication to our Deposit Account No. 14-0116.

Respectfully submitted,

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